MIAMI UNIVERSITY
JAN 4

The JOURNAL *of* GEOGRAPHY

VOL. III. DECEMBER, 1904 No. 10

FINAL RESULTS IN THE STUDY OF GEOGRAPHY

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THE American boy begins the study of geography at the age of five or six years; at the age of twelve or thirteen he closes his text-book and makes an end to the systematic study of the subject so far as his school course is concerned. During the first three years of this course the work is mainly to develop the perceptive faculties, and he becomes familiar with geographic forms, earth substances, form factors, etc. He may or may not be old enough to comprehend that these are either topographic or climatic in character. It is of very little use to attempt to force this categorical classification upon him unless he can understand it, and the understanding of it is a matter, not of "brightness" but of mental development.

During the fourth, fifth, and sixth years he undertakes the systematic study of geography. During this period he gets a superficial knowledge of peoples and the countries in which they live; the chief thing accomplished is the acquisition of a vocabulary of geographic names. From three-fourths to four-fifths of all the place-names he becomes familiar with he learns at this time. And a reason therefor is not hard to find; between the ages of ten and twelve the memory faculty is stronger and more active than at any other time of life. A moment's reflection is sufficient to show that this sort of work is not the real study of the subject, but only a preliminary preparation for it. In its intrinsic value it is not equal to the knowledge gained in the first three years of field work. The unfortunate part of it is the fact that not far from three-fourths of the public school pupils never pass this stage of geography study.

In the seventh and possibly in the eighth year the pupils who

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remain in school take the subject upon a basis that ought to be naturally broader. They are supposed to learn not only about countries and industries, but they should also know that those same industries depend mainly upon either climate or on topography, or on both climate and topography. The boy should know it not only in the abstract, but in the concrete as well. He should know it by discovery, and the discovery should result from the study and investigation made in his own neighborhood. Let us take several illustrations.

Suppose the locality is the prairie region of Illinois: Wheat is the staple product. The wheat-farming is there because the staple foodstuffs can be cultivated and harvested on a level plain, covered with alluvial or diluvial soil, more economically than in any other locality. That is, topography, a geographic feature, has controlled a great human activity.

Suppose the locality embraces the corn belt: The corn does not thrive best, we will assume, south of the latitude of Oklahoma because the days are not long enough to bring about the high temperature which corn requires. It does not thrive in the latitude of Minnesota because, in spite of the long days, there are occasional cold nights in August that arrest the process of fructification; that is, a crop of tremendous importance is controlled by climatic conditions.

Suppose we consider the coal regions: In this case climatic conditions were the proximate causes of the growths of vegetation that now constitute the coal. Geologic and physiographic forces of a complex character resulted in the topography that now makes the coal available as a source of energy. The old denuded Huronian ranges, their present topography resulting from physiographic process, yield their contents of iron ore. The Great Lakes, a natural basin, constitute a line of such low resistance that upon their surface the ore may be hauled very cheaply. Because of all these conditions iron ore fit for making the best Bessemer steel may be delivered at the smelteries at a cost varying from $1.75 to $3.25 per ton. As a result of these fortuitous conditions this region has become a center of steel manufacture that practically fixes the price of steel rails for the world. So, also, the cotton region, the grazing region of the plains, the mining region, and the humid lowlands of the Pacific coast offer excellent illustrations. An inspection of a good relief map of the country, beginning with the Sound Valley and ending with the lower flood plain of the Colorado River, is sufficient to show that this is an area destined to become one of the great food-producing

regions of the world. In other words, topography and climate are the chief factors that control a certain human activity and make both economic and political history.

Let us consider a foreign country, the conditions of whose political organization are unique—Austria-Hungary: The pupil learns of its general surface features and what may be expected of its productivity so far as latitude permits. He also learns that the population of the country consists of races that are very diverse in character. The Czechs hate the Huns and the Huns hate the Czechs; they both unite in most cordially hating the Germans of Austria. Why, then, are they held together under a single political organization? Until the pupil knows this he is not armed with the knowledge of the geography of Austria-Hungary that he ought to have. The chief explanation of the political entity of the empire is to be found in the valley of the Danube River. On the southeast and east are the grain fields of Roumania and Bulgaria; on the west and northwest is the dense population of the manufacturing centers of Europe. The Danube, a line of least resistance because of its topography, is one of the great trade routes of Europe. So important is it that the Iron Gate, the water gap in which the river breaks through the Carpathian Mountains, is controlled by an international commission. Now the commerce of this region is so extensive that the community of interest overbalances race hatred. Hence Austria-Hungary holds together because of commercial interests mutual to the diverse races.

In the case of Germany we may see the effect of a commercial product in relation to geographic environment on the one hand and to political history on the other. The sandy Baltic plain has a topography that has resulted from interesting physiographic processes. It is indifferent land for the cultivation of ordinary food crops, but for the production of sugar beets the soil is scarcely equaled elsewhere. So well adapted is the land for this crop that many square miles formerly devoted to other crops in the past few years have been given up to the cultivation of the sugar beet. Indeed, one might say with but little exaggeration that the foundations of the empire are beet sugar and Bessemer steel. From the development of beet-sugar manufacture, moreover, it is very easy to trace the Cuban revolutions and the Spanish-American War.

Now when we consider the various nations of the civilized world we shall find that modern political organization is very largely for the protection, encouragement, and preservation of the economic

industries of a people; that is, production, manufacture, and commerce. Furthermore, these industries in the main are very largely controlled by the conditions of geographic environment; that is, by climate and topography. These are the fundamental propositions in the study of geography and if the pupil may have forgotten everything else that he has learned in his school course, he can easily rebuild a good working knowledge of the subject upon them. Without an understanding and comprehension of these principles his knowledge of the subject is incomplete, imperfect, and fragmentary.

There remains to be considered the way in which the inculcation of these fundamental principles can best be accomplished. To comprehend them a certain maturity of mind that comes only with years is essential. The German schoolboy has this sort of knowledge because he has about four more years of work in the systematic study of geography than the American pupil. Indeed, as a rule, his knowledge of the subject much surpasses that of the American boy even in matters pertaining to the geography of the United States. The American boy closes his study of the subject usually in the eighth year. In many schools, notably those of New York, he quits it at the end of the seventh year, just about the time he is old enough to begin these fundamental principles. In many cases, more especially in the elaborately graded schools, the conduct of the study is bent mainly to the work of preparing for the examinations. "He studies to pass and not to know; he does pass and he does not know."

RESULTS OF AN ELEMENTARY COURSE IN GEOGRAPHY

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No more important consideration concerning the teaching of geography exists than the question as to what results the course in this study should secure to pupils. The content of text-books and the methods chosen by the teacher are dependent upon its decision. It is fundamental to the construction of a course of study.

The graduate of a grammar school should have definite knowledge of the most important facts concerning the earth and its peoples as a result of his work in geography. Most boys and girls may forget

the facts of mathematics they learned after the fifth or sixth grade and rarely miss the knowledge. If they fail to remember the essentials of geography presented in upper grades they are poorly prepared to read newspapers and periodical literature or to converse confidently on current events. They should be equipped with the knowledge requisite to enable them to share in the larger life and thought of their times.

In years agone, and in belated schools of both city and country extremely close to the present day, too, about the sole result of the geography course was a summary knowledge of many brief, unrelated facts as to location, products, and the like. How many capes and capitals, distant bays, and little rivers pupils pored over their maps to find! Happily, ere long most were forgottten, because, having little life importance, they were but lumber in the mind. In some school systems reaction from such teaching has resulted in a general failure to learn the locations of places having prime importance.

We may agree that a graduate should know the location of the countries of the world, perhaps a hundred of its important cities definitely and in similar manner the larger physical features and those of great influence on life, not forgetting really leading productions. Much more will be known in a rather general way, for instance that Sheffield is somewhere in the industrial district of England. The class of facts first mentioned should be so known that the pupil will habitually picture in his mind any continent and locate country, city, or river upon it so as to consider it in its true geographical relations. The ability to draw a good sketch map rapidly is proof of the mental picture and its degree of accuracy. There should be built up in a pupil's mind broad general outlines of the continents and their life, accurate so far as they go, but with no attempt to elaborate details. This latter aim would prevent accomplishing the main purpose.

But what cities and mountain ranges should be well known? some teachers ask. Why, those that the teachers themselves have found referred to again and again in papers, magazines, and books—by travelers, historians, and the commercial world. Geography studies the relations of man to his environment, and facts are important according to the closeness of their relation to man's life. There is no need that some authority should make a list of the places of first importance. Were a hundred people to make lists of the hundred cities of the world that a pupil should be able to locate closely, they would

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certainly agree in their choice of the majority. Most text-books emphasize rightly the facts of prime importance.

Geography secures to the pupil more than knowledge of mere facts; it gives knowledge of the relations, the causal connections, between facts concerning man and those as to his natural environment. A pupil should not only have knowledge of successive instances of relations between man's life and the earth; such knowledge should be organized into the more fundamental general truths of geographic relations. In this direction results are as yet unsatisfactory. The text-books state few general principles clearly; geography in its higher reaches has not been fully developed as a science. Naturally the pupil has only indefinite conceptions of the fundamental laws illustrated by the specific cases he has learned.

The relations of man to the earth have been slowly established through the changing reactions of history. These relations are often intricate and hard to comprehend. Even the simpler truths of geographic relations that are taught can be better understood, perhaps alone understood, when relations are viewed from the standpoint of their development. One result of an elementary course in geography should be some knowledge of geographic facts and relations of past time—history if you will, yet not history in its central purpose. The pupil will know the world not merely as the sum of present facts and relations, but as having developed from a different past toward a more perfect future. These larger general truths of the evolution of the relations of the different peoples to their home lands are of at least as much importance as the actual facts taught concerning present geography. When the child has become a man or woman of middle life, the facts he learned at school will have become in considerable part untrue; capitals and boundaries change, new centers of life develop, areas of production and routes of distribution wonderfully change. Principles of geographic evolution true for past development control present changes, and knowledge of such general truths of the science, geography, constitutes a guide to the understanding of current events of the world and one's home community that should be furnished in some measure to every graduate of our schools.

It is even more important that graduates should know how to study for themselves than that they know certain life facts and general truths as to their earth relations. Geography provides the earliest and best opportunity of the elementary school to train children to

study books—both text-books and reference books. Of late it has become fashionable in some sections to cry out against slavish adherence to the text-book and to advocate the presentation of material by the teacher, who has gathered it from all sources. At its worst this is inaccurate and ineffective lecturing, a pitiable imitation of the weak feature of college methods. At its best, energetic teaching, it lacks the definiteness of result that systematic study of a text or texts secures. Although in earlier years, and in the early part of every year, new topics or sections should be introduced by class study, or discussion, of maps, pictures, and other sources of knowledge, under the teacher's active guidance, as the work proceeds and pupils perceive its spirit and methods, they should be assigned subjects for independent study, and test recitations may follow without preliminary teaching. Students may thus be trained to know how to study the pictures, maps, and text of books when they enter the secondary school or leave school for life work.

Geography affords a large and neglected opportunity for training children to use their eyes and other senses in thoughtful study of objects. Field lessons should be continued through the grades until pupils will naturally question how the human life of any newly presented community is related to its environment, even if they do not as certainly question how any new district was modeled by nature's forces. Laboratory exercises with wisely chosen and skillfully arranged sets of specimens of raw materials and finished products, whose immediate end is to enable the children to adequately understand the relations of industries, should give as much aid as nature study in developing the children's power to observe thoughtfully. Students entering the high school should know how to observe, to study the earth and objects upon it.

Pupils completing elementary work in geography should know facts and principles; should know how to gain geographic knowledge; more than this, they should know the pleasure that arises in the acquisition of knowledge of the earth and its peoples, and the inspiration to right living that may be imparted through the study of our own and other nations. A good teacher will not be satisfied with imparting and fixing certain facts and a measure of skill in their acquisition; she will earnestly desire to have every pupil close the course eager to continue his studies and fully aware of the aid that the public library affords him.

Knowledge should be so chosen and presented also as to awaken

earnest and broad patriotism, intelligent devotion to the development of the economic and social possibilities of the home community, comprehension of the resources and relations of the nation that shall complete the work of history in securing wise citizenship, appreciation of fellow lands and peoples that shall make patriotism broad enough to know the rights of other nations and the duty of our people toward other races.

In summary: the knowledge gained during an elementary course in geography should be so limited and systematized as to be definite and permanent; it should be so gained as to open attractively a limitless field of knowledge and to inspire an earnest and practical effort to relate one's own life to its environment.

FOUNDATIONAL EXPERIENCES

BY ARTHUR P. IRVING
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AT the opening of the last school year all of our classes took up geography work and we determined if possible to lift the study above the merely word work so often found. To make the study more real to the pupils was our aim.

The first step was to find out what the children offered us to build upon, not in the way of previous book knowledge but in actual observation and experiences. We also noted that ideas of the oceans, lakes, rivers, and mountains predominate in geography. Therefore we set out to learn just what the children knew at first hand of these fundamental features by having them write answers to the following questions. Some of these questions are necessarily local, covering prominent features of this section:

OCEAN—

1. Have you been on the shore of the ocean?
2. Have you tasted of the water of the ocean?
3. Have you waded into the water of the ocean?
4. Have you seen the rise and fall of the tide?
5. Have you sailed on the ocean?

LAKE—

6. Have you seen a lake?
7. Name the largest lake you have seen.
8. What is the taste of lake water?

RIVER—

9. What large river besides the Connecticut have you seen?
10. Have you seen falls in a large stream?
11. Where are these falls you saw?

MOUNTAIN—

12. Have you been on Mount Tom?
13. Have you seen a greater mountain than Mount Tom? Name it.
14. Have you ever lived outside of the Connecticut Valley? If so, where?

The answers of the children are tabulated by grades and rooms. In the following chart the total number of each grade is given except for the seventh grade, which for our study is given in detail. Many of the questions could be answered by yes or no. The upper number of the fractional form in the chart signifies yes and the lower number no. The results of some of the questions do not appear on the chart.

FOUNDATION EXPERIENCES IN GEOGRAPHY

Grade	Room Number	OCEAN					LAKE		Seen Ocean, Not Lake	Seen Lake, Not Ocean	Seen Neither	RIVER		MOUNTAIN		Lived Outside Connecticut Valley
		Have Seen	Tasted	Waded In	Seen Tides	Sailed On	Have Seen	Tasted				Besides Connecticut	Seen Large Falls	On Mount Tom	Greater Than Tom	
VI	4 5	36/40	23/53	32/44	20/47	23/53	50/26	24/52	8	22	18	40/36	39/37	48/28	29/47	17/59
VII	3	22/20	17/25	10/23	19/23	18/24	38/4	20/22	0	16	4	28/14	32/10	32/10	15/27	18/24
	2	15/19	12/22	13/21	13/21	13/21	20/14	9/25	5	10	9	15/19	17/17	23/11	7/27	12/22
	1	23/16	14/25	16/23	20/19	19/20	33/6	22/17	5	15	1	27/12	34/5	24/15	26/13	20/19
	7	25/9	18/16	21/13	18/16	21/13	25/9	13/21	5	5	4	28/8	24/10	23/11	16/18	13/22
Total		85/64	61/88	69/80	70/79	71/78	116/33	64/135	15	46	18	96/53	107/42	102/47	64/85	62/87
VIII	8, 9, 10	76/34	64/46	65/45	62/48	64/46	76/34	40/61	18	18	16	64/46	47/63	84/26	57/53	43/67
IX	11 12	48/12	40/20	43/17	43/17	42/18	52/8	37/23	7	11	1	43/17	30/24	51/9	32/28	34/26

Upper number of fraction is number of pupils answering Yes.
Lower number of fraction is number of pupils answering No.

While considering these answers we must bear in mind that Springfield is about a hundred miles from the ocean; that no lake of any size is very near us, the nearest ponds even being so situated that many of the children do not see them; that Mount Tom (1,218 feet) is ten miles away, easily reached by electric cars and clearly seen from most parts of the city; and that the Connecticut River is at our door, although not much of a factor in the business of the city, as in Hartford and Holyoke. Again, these children are all in the upper grades and from pretty well-to-do families.

In grade VI over half of the pupils have no first-hand knowledge of the ocean and eighteen have none of lakes either. About half have not seen falls of any size and a large number have not been much above the common level of the land hereabouts.

Let any teacher think over her geography outline and consider such facts of the mental condition of her pupils and she must sit down in blank discouragement or spring up with a grim determination to overcome these difficulties so far as possible by good teaching. One of our teachers expressed it when she said she realized for the first time how dim were the visions which the children had from her teaching, for she had taken too much for granted.

A little better condition is shown in grades VII, VIII, and IX, but in every grade and room the per cent of those lacking fundamental concepts is large, very large, and must be reckoned with in class presentation.

In grade VII are given the statistics of each room to show that the deficiencies are everywhere present and not confined to the highest or lowest divisions of a grade.

The statistics of this school as such are of little use to teachers of other schools. They merely suggest that every teacher must know her own class and present to her a simple way of getting such knowledge. It would be interesting and helpful to have such a study of the whole city, yet after all each teacher is concerned chiefly with her own class. By the conditions herein presented the teacher is challenged to do good work. The first step is to know the conditions; the next is to govern ourselves accordingly. That the teachers of this school have overcome these difficulties would be far too much to say. But different and more thoughtful teaching has been going on. We are right in the stage where we would like to have some show us how to do more. The way, however, is not all so dark as one might think. We can make use of well known devices, well selected

pictures, and good word pictures from any source. Talks by children who may have seen different places are of great interest to the others. For illustration, in room 7 we found a number of pupils who had seen lakes ranging from Forest Lake, Whalom, Quinsigamond to lakes Champlain, Erie, Michigan, and Great Salt Lake. And for rivers we got experiences from the Chicopee and Westfield to the Nashua, Charles, Penobscot, and Mississippi. Several had seen Niagara Falls. Seventeen had lived outside of the Connecticut Valley, as in New Hampshire, Montreal, Providence, Long Island, Buffalo, and in England. For mountains we ranged from Wachusett and Greylock to Mount Washington and the Catskills.

I am fully aware that our course of study calls for North and South America in grade VI and for Europe, Asia, and Africa in grade VII, etc. But how can children ever know and visualize anything of these remote places until they know what is about home? Those children whom Doctor Hall mentions who thought of berg as a place of amusement, from Pefferberg, the name of a saloon in their neighborhood in the city of Berlin, were better off in the use of a geographical term than some of our upper grade children. They had at least a concrete idea under the word. We hope also to see the time when we can ask the pupils of the ninth grade to point out a plain or plateau without having them charge up and down a streaked map of remote Asia or Africa while all the time our own city is largely situated on such a form.

So at last we drop into a plea for and a trial of a broader study of local and neighboring conditions. Not that local geography is meant which confines itself to the fourth grade and then forgets that the pupils ever had a local habitation. We might as well study phonics in grade II and then never require it again.

A distant and foreign land must be interpreted in the thought and terms of the home country. Understand the Connecticut River and you understand all rivers. This thought applied in every grade must help overcome some of the difficulties.

WHAT SHOULD GRADUATES FROM ELEMENTARY SCHOOLS KNOW ABOUT GEOGRAPHY

BY ISAAC O. WINSLOW
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THE determination of the course in geography for elementary schools is a process of selection and elimination. In the rapid development of the subject in recent years a great amount of the "new geography" has been added, while but little of the old has been abandoned. The result is that we have an impossible amount of subject-matter included in the course and in the text-books, and the attempt to accomplish the whole leads to confusion. The necessity of selecting imposes an unnecessary burden upon the ordinary teacher and requires greater ability than she possesses. The few artist teachers are able to shape their own work, but while we are theorizing about the few we are neglecting the many.

Of all the work that might be regarded as belonging in the geographical sphere of education, to determine what parts are of greatest worth to the average child as a preparation for life is the task that lies before us. There ought to be a more general agreement with regard to the several divisions of geography—astronomical, mathematical, physical, historical, political, descriptive, and economic—upon the question what there is in each division that for its practical utility, or its value in culture, the average child should be expected to know at the time of leaving the elementary schools.

With regard to astronomical and mathematical conceptions, too much is generally expected of young children and but little is accomplished. By the simplest forms of illustration, with the globe and a diagram, and by observations of the sun, the most elementary notions of the motions of the earth and its relative positions should be thoroughly established in the mind of the child as a permanent possession. Upon this basis he should be able to understand the causes of the changes of the seasons, the alternation of day and night, and the variation in the length of the days. A little practice in thinking where the sun would appear to be in the heavens, at noon, to one situated at the equator, at the tropical circles, at the Arctic Circle, and in various countries of the world, at different seasons of

the year, will serve to effect a transition from the artificial illustrations to an imagination of the realities.

There is great danger of attempting too much in physical geography and of teaching it at the wrong time. Pupils of the high school grade may find interest in this part of the subject, when pursued for its own sake and with extended applications in detail, but for elementary pupils this is wearisome and unprofitable. It is not difficult, however, to awaken an interest in scientific principles and facts which can be easily understood and which have an evident relation to human welfare. A good understanding of such elementary principles is necessary as a general basis for causal explanations. In setting forth these principles it is not necessary to give all the causes that produce a given effect. A clear idea of one cause is better than a confused notion of several, and satisfies the demand for explanation.

We should give a clear idea of the cause of the movement of the air, in general, and of some particular applications, such as sea breezes and land breezes. The latter part of the course should include an explanation of the prevailing winds of the earth and their changes with the seasons.

With regard to temperature, two points are important, the difference due to elevation, and the difference between inland regions and those near large bodies of water. An explanation of the curves in isothermal lines, at various seasons, furnishes good practice in the application of these principles.

The child should be able to give, first, the general causes of the appearance of moisture in the atmosphere in the form of fog, mist, clouds, and rain, and secondly, the most common of the particular causes, as when a body of air rises, or passes over mountains, and when the trade wind meets the land. These points should be so thoroughly understood that an application may be readily made under any specified conditions.

A causal explanation of the physical features of the earth requires a brief account of geological history, including the formation of the earth's crust by cooling, the principal agencies of erosion, the formation of new strata, the effects of upheaval and depression, volcanic action, the effects of rivers in wearing down their beds, transporting detritus, and forming flood plains and deltas, the work of waves on the coast, and the principal effects of the Ice Sheet. It is impossible to avoid an elementary consideration of these principles without abandoning the attempt to give explanation and reverting to a static

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treatment of geography, or mere description. On the other hand it is necessary to guard against the temptation to enter into details too minutely. Brief and simple explanations, if clear and correct as far as they go, are not open to the charge of superficiality.

The aspect of supreme importance, to which mathematical and physical considerations are subordinate and in which the highest interest of children centers, is the treatment of the people of the earth, of the geographical reasons for their activities, and of the causes and results of their abode in the various regions.

As an introduction to the life of the people of a country and as a means of awakening interest in them, it is of great advantage to give a brief account of their origin and of the development of their leading characteristics. A brief statement of the great national facts in the history of the Swiss people, for example, an account of their patriotism and their struggle for liberty and independence, arouses an interest in their present conditions as nothing else can.

The culmination of both interest and value is in the customs and occupations of the people, especially as resulting from natural conditions. Children are eager to learn what manner of life the people of a country are leading, what they are doing and why they are doing it. A strict regard for the limits of the field would confine us to such activities of the people as are geographically determined, but it is unnecessary to be greatly troubled upon that point. The objection to passing beyond the boundary lines has a stronger basis in the question of economy of time, than in that of sinning against principles. The teacher himself should have so clear a view as to know the boundaries of the field, but should not hesitate, at times, to pass beyond them. The production of wheat in the Dakotas and Minnesota is a fact geographically determined. Routes of transportation of the wheat, if affected by geographical conditions, are also legitimate. The water power at Minneapolis may furnish an excuse for mentioning the bare fact that wheat is there converted into flour. Precise geographers of a certain type are ready to cry out against anything further, and yet the practical teacher who fails to weave in details by briefly describing the methods of handling the wheat and the process of manufacturing flour, misses an easy opportunity to clothe the subject with life and to strengthen the memory by vividness.

The commercial phases of geography belong preëminently in the elementary course. To account for the leading productions of a

country without explaining what becomes of them is to leave the thought in suspense. A study of the system of exchanges of the great staple products among the various countries is as easy and interesting as the spontaneous play of childhood. Thorough practice in thinking out the leading commercial routes and the products transported over them serves as the best kind of final review and fixes in mind a most concise knowledge of world relations. Recently there has been a tendency to enlarge upon physical geography in the elementary schools while, on the other hand, commercial geography has generally been regarded as a high-school subject. There are good reasons for reversing this. The graduate from the elementary schools should be sufficiently acquainted with the practical world of the present day to have in mind a fairly complete scheme of commercial relations and exchanges. On the other hand, with a good understanding of the simplest elements of physical geography he can afford to postpone an elaborate treatment of that subject.

Such an industrial and commercial view of the world will serve to emphasize the most important part of "sailor geography." Mere convenience requires one to be familiar with minor localities in the vicinity of his home and within the circuit of his practical life, but aside from this the indiscriminate cramming of names and locations is worse than useless.

Since the capital cities are not always the largest cities of countries and states, there is neither practical nor disciplinary value in the ability to recite them. The memory should not be burdened with the names of more cities than are often mentioned in the newspapers or in books commonly read. Every city of this class should be associated, in the child's mind, with some special industry or attraction for which it is noted.

Great exactness should not be required in the matter of locations or boundaries, except in the case of the home state or country. The ability to name, in order, the succession of states along the border of the country or along a river, or those through which one would pass in traveling from a given point in a given direction, embraces all that is of much value in this kind of knowledge. If children can give the countries and the parts of the countries in which the important mountain ranges and rivers are situated, there is little additional advantage in more exact details. The knowledge of capes, gulfs, and bays and other forms on the coast should be confined to those whose names are of frequent occurrence. The most effectual means of fixing locations

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in the memory is practice in filling outline maps, or making maps quickly from memory.

The suggestions herein set forth may seem to propose a course unnecessarily brief and simple, but they will be appreciated by those who have had experience in ascertaining how little of all the geography that is studied in school is retained in after life. It is true of many subjects of study that much is gained from what has been once learned and for the time forgotten, but in geography facts forgotten are nearly a total loss. In this department it is best to strive to know the few things well.

COMMERCIAL IMPORTANCE OF CONTINENTS*

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AFRICA has been styled by a leading traveler, "The Coming Continent." In what sense may it be thus named? Perhaps because of its rapid development; perhaps because many European nations rushed precipitously, less than two decades ago, to possess themselves of a portion. Certainly not as a place into which the peoples of temperate climes may overflow, since most of the great continent is climatically unfitted to be their home. Certainly not for its people, because its unnumbered millions belong to low, savage, restless, workless, or nomadic, marauding types. And certainly not on account of its mineral wealth, although the output of gold and diamonds is something prodigious, because these minerals never have been the basis of the permanent development of any country, nor indeed can be. The nations whose greatness is due to mineral industries base them on coal and iron. Certainly not as a market for manufactured articles because most of the natives, who constitute a large percentage of the 130,000,000† souls, make all the clothing and tools for which they have use. Wherein, then, lies

*NOTE.—After the continents have all been studied it is well to sum up the work in various ways, and to introduce comparisons and contrasts between them as to size, population, position, and other characteristics. The theme of the accompanying paper may be suggestive along this line. The countries of a continent or states of a nation may serve as a basis for a similar study.

† A mean of the estimates for Africa's population.

the importance of this massive, dark continent? It really has great possibilities. Can we not find them in the relation to the other continents, which it is destined to bear in the business world? This discussion is opened in order to set forth the geographic conditions upon which is based the economic interdependence of continents and of zones.

The loudest cry of all the leading life centers, agricultural as well as manufactural, has come to be, "A market for our products or we perish." With this in view, let us look at the field. The market hunter seeks primarily for people. This is the first element in a market, for wherever the density of population is high, there a considerable quantity of various commodities are used. It is because some writers have gone no farther than this that an error has been made.

A second element includes the needs of the people unmet by home productions. Regions differ immensely in this factor. Climate, occupation, and customs established by constant or repeated contact with elements of the environment help to determine the needs. For example, a resident of central western Europe must have cotton, woolen, and silken clothing, gold rings, feathers, books, elegant carriages, and tempting viands with beautiful pottery upon which to serve his menu. The central African native uses but little cotton, no wool or silk; ornaments of iron, bone, or even wood, make very good substitutes for the costly golden treasures. A chicken's feathers equal those of an ostrich. And as for "tempting viands" and the associated chinaware—native, uncultivated fruits and vegetables eaten uncooked from the hand are all that could be desired. For books he knows no use, and when he takes his outing he walks. Since what little work he does is hand work, machinery is not in the list of his needs. Therefore, the wants among these people are extremely few.

The third element consists of the present products of the region. Notice the last two regions mentioned. The European can make all his clothing and to spare, if he only has the raw materials. He grows the wool-bearing sheep and tends the tiny silk spinner, but his climate forbids the growing of cotton, hence he must buy that. His feathers and furs must be imported. The gold he can dig in many places, but in insufficient quantities; so that, too, must come to him. He has learned to collect the raw materials of his food from all the corners of the earth, and in them he has built up a great commerce. The clays and sands of his own hills and valleys and

the coal of his mines enable him to make his own chinaware and ornaments. The wants unmet by the home products or by goods made from the latter are practically all raw materials. Hence we say France and Germany are manufacturing nations. But the African finds a strip of homemade grass cloth sufficient for all his clothing. The feathers in his hair or hanging from his girdle are from native wild birds or from his own poultry yard. His ornaments have always been homemade from native products until Europeans taught him different. Now he wants strips of calico, green or red cotton parasols, and all sorts of gewgaws from abroad. These flummeries constitute his great unmet wants. In almost all other respects the products of his land are sufficient.

With these principles in mind, turn to the several continents and see what part to expect them to play in the world's great commercial system, for by virtue of commerce and commercial centers all other life centers are united and vivified. In the following table the items are brought together for comparison:

Continents, Etc.	Density of Pop. per Sq. Mile	Needs or Wants Beside Those Met at Home	Surplus Products
Europe	97	Many; highly specialized; foods, and raw materials for factories.	Many classes of manufactures.
Asia	48	Many; less specialized; all sorts of manufactures and machines, some food.	Many raw materials; special food stuffs, a few types of manufactures.
Pacific Isles	42	Ornaments, civilization, development and associated machinery and equipment.	Mineral and agricultural raw materials.
Africa	15	Ornaments, civilization, development and associated machinery and equipment.	Raw materials.
North America	12	Many; highly specialized; foods and raw materials.	Manufactured goods and raw products, as grains, cotton, etc.
South America	6	Many; less specialized; manufactures and machines.	Raw materials, especially tropical agricultural products.
Australia	1¼	Manufactures.	Agricultural and mineral products—grains, wool, and gold.

From the table it appears that Europe is most densely settled, and, judged on this point alone, should be the best market. It is true that its people use by far the most manufactured goods per capita as well as per unit area, but they also make the most. Their special need is for raw materials to be made into foods for home use, and into textiles, hardware, and machinery for use and for export. Asia is a continent only half as densely settled, but by a people whose wants are many and whose productive power is good, especially along agricultural and certain manufactural lines. Hence their need is for general manufactures and their surplus is raw materials. And since Asia's area is several times greater, the actual number of consumers is millions above that of Europe. These people should meet those of Europe and exchange commodities. Asia is pre-eminently characterized as a market for manufactures, hence to a manufacturing nation it must seem like "the coming continent."

The Pacific Isles, however, with nearly as high a density of population, have very few unmet needs, while they possess facilities for turning out a large quantity of tropical food products and raw materials to supply the manufacturing industries of Europe and America. These islands should be looked to, not as markets for manufactures, but as sources of raw materials. It is true they buy almost nothing but manufactured goods, but the list is mostly made up of machinery, carriages, beer, flour, and petroleum, and the total is very small compared, for example, with the Australian colonies. All the Dutch East Indies imported, in 1901, goods to the value of $2.50 per capita, while in 1902 the Australian commonwealth imported to the value of $54 per capita. The continent of Africa belongs in the same category. The people of both countries lack all urgent needs, a lack due to the hot, enervating climate, the uncultured condition of the mass of the population, and to the prodigious productivity of the soil.

In North America great nations occupy broad tracts. The people are extremely progressive; the invigorating climate, by its severity, creates wants for clothing, fuel, houses, and food. The people have developed manufacturing to an extent, in many localities, comparable with that in Europe. The country is not thickly settled, hence there is magnificent opportunity for the production of raw materials. North America produces as much of this class of commodities as it uses, but ships some out and buys others to meet special manufacturing demands, then makes up much more goods in many lines than are needed. Therefore the continent may be classified as a producer

of raw materials and also of mill products. For this reason Europe is invaded to sell goods of the first class and Asia to sell those of the second, while our merchants join hands with the Pacific Isles and Africa in order to purchase raw materials.

South America and Australia, with their sparse populations and broad acreage, are preëminently producers of raw materials and purchasers of manufactures. But they differ between themselves so much in climate that as continents they must always differ in the general character of the products. The former will supply, largely, tropical fruits, vegetables, and forest products, while the latter will produce sheep and wool with southern South America; and gold and wheat, by means of which it can buy the needed manufactures.

In conclusion it may be said that the climate, soil, density of population, and the social and economic conditions of the people differ widely in the several continents, and disclose the basis for intercontinental commerce and exchange. Goods must cross the meridians from one temperate country to another because of the enforced difference in output and in the respective needs of the people; and for the same reason they must cross the tropics. Temperate countries, while great producers of raw materials, are preëminently the manufacturers of the world. Tropical lands, while making nearly all that they need, are preëminently producers of raw materials which must waste unless sent to factories in the temperate zone. Just as our continued prosperity depends upon our finding a market for our specialties (manufactures), so the development of tropical lands depends upon their finding a market for their specialties (raw materials).

LATER GEOGRAPHIES*

BY CLIFTON JOHNSON

THE old-time geographies until nearly the middle of the last century were never larger than 12mos and some of them were diminutive 32mos. Up to 1820 they were as a rule bound in full leather, but occasionally the wood or binder's board of the sides was covered with dull blue or marbled paper. Buff-tinted papers with the title and more or less other printing on them were substituted on nearly all the later books. Illustrations also began to be used, at first sparingly, but soon very generously; and instead of being designed for the older pupils the books were made with special reference to the needs of the younger children.

For a score of years after geographies began to be introduced into the schools they depended largely on the use of a globe to make clear the divisions of the earth. It was not long, however, before nearly every book was accompanied by an atlas, and this continued customary to about 1850. Not many of these atlases have survived. They were flimsily made, with paper covers, and the wear and tear of daily use made an end of them. The usual size was either about six by nine inches or nine by eleven inches. Comparatively little color was used on the maps, and even at their newest the atlases must have looked dull and uninteresting. To modern eyes the oddest features of the maps are the vacant or mistaken outlines of the northern coasts of this continent, and the general blankness of all its western portion, with Mexico making a great sweep up into the present domains of our republic. Some of the African maps, too, are given a strange appearance by the portrayal of an immense line of mountains—the "Jibbel Kumra or Mts. of the Moon"—extending in a continuous and perfectly straight chain from east to west entirely across the broadest part of the continent.

Jedidiah Morse was the pioneer among American authors of school geographies, as I have explained in the previous chapter. The earliest rival to contest the field with Morse's books was a small volume of questions and answers compiled by Nathaniel Dwight and published at Hartford in 1795. Our own continent is confined to

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the final third of Dwight's Geography, while Europe, Asia, and Africa have the first two-thirds. How very remote and unfamiliar many portions of the globe still were can be judged from the fact that most of the capital cities in Africa and some even in Asia and Europe are located by giving their distance and direction from London. Thus, "Petersburgh the capital of Russia is 1140 miles northeast from London. Pekin the capital of China stands eight thousand and sixty-two miles south-easterly of London." Monomotapa, the capital of a country of the same name "on the sea-shore in the southern part of Africa, is built with wood, covered with plaster and stands about 5,200 miles south-easterly from London." Other curious bits from the geography follow:

Q. What are the Russian funeral ceremonies?

A. They are singular: The priest prays, and sprinkles the corpse for eight or ten days; it is then buried with a passport to heaven, signed by the bishop and another clergyman, which is put between the fingers of the deceased, and then the people return to the house whence they went, and drown their sorrow in intoxication. This they commonly do for about forty days, during which time the priest says prayers over the grave.

Q. Are there any lakes in Scotland?

A. There are many; but two are very remarkable: One near Lochness is on the top of a hill almost two miles high. This lake is small, but it has never been sounded, nor does it ever freeze. About seventeen miles distant is another lake which is frozen all the year.

Q. What are the persons and characters of the Scots?

A. They are generally lean, raw-boned, and have high cheek-bones, which is a characteristical feature.

Q. What are the diversions of the Scots?

A. They are all of the vigorous, athletic kind; such as dancing, *goff* and *curling*. The goff is a species of ball-playing performed with a bat and a ball, the extremity of the bat being loaded with lead, and the party which strikes the ball with fewest strokes into a hole prepared for the purpose wins the game.

Q. What are the customs and diversions of the Irish?

A. There are a few customs existing in Ireland peculiar to this country. These are their funeral howlings and presenting their corpses in the streets to excite the charity of strangers, their convivial meetings on Sunday, and dancing to bag-pipes, which are usually attended with quarreling.

Q. What curiosities are there in France?

A. A fountain near Grenoble emits a flame which will burn paper, straw, etc., but will not burn gun-powder. Within about eight leagues of the same place is an inaccessible mountain in the form of a pyramid reversed.

Q. What are the animal productions of Poland?

A. Buffaloes, horses, wolves, boars, gluttons, lynxes and deer. Besides these there is elk, which is said to be destroyed in the winter by flies who get into his ears and live upon his brain.

Q. What curiosities are there in Portugal?

A. There are lakes into which a stone being cast causes a rumbling like the noise of an earthquake.

Q. What do you observe of the inhabitants of Guinea?

A. They are chiefly pagans and idolaters. In Eyo, where the people are governed by a king who is not absolute, when they are tired of him, a deputation waits on him and informs him that it is fatiguing for him to bear the burden of government any longer, advising him to take a little rest. He thanks them and retires to his apartment as if to sleep, and directs his women to strangle him; and after he expires they destroy all things which belonged to him or to themselves, and then kill one another. His son succeeds to the government, and on the same terms.

Q. Give a concise description of the Giages and Annians.

A. The first inhabit a part of the Congo coast; the latter live in the Macaco. The people are cannibals. They kill and eat their first-born children; and their friends who die are eaten by their relations. The king of Macaco resides in Monsol, where there is a market in which human flesh is sold, although other meat exists in plenty. They esteem it a luxury, and it is said an hundred prisoners or slaves are daily killed for the king's table.

Q. What are the characteristics of the Hottentots?

A. They are the most abject of the human race. They besmear their bodies with soot and grease, live upon carrion, old leather, shoes, and everything of the most loathsome kind; dress themselves in sheep's skins, untanned, turning the wool to their flesh in the winter, and the other side in the summer. Their dress serves them for a bed at night, for a covering by day, and for a winding-sheet when they die.

Q. What is the temper of the New England people?

A. They are frank and open, bold and enterprising. The women

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are educated to house-wifery, excellent companions, and housekeepers; spending their leisure time in reading books of useful information.

Q. What are their diversions?

A. Dancing is a favorite one of both sexes. Sleigh-riding in winter, and skating, playing ball, gunning, and fishing are the principal; gambling and horse-jockeying are practiced by none but worthless people who are despised by all persons of respectability, and considered as nuisances in society.

Q. Are there any slaves in Massachusetts?

A. NONE.

One geography that had a marked individuality of its own was a thick little volume, mostly in verse, entitled *The Monitor's Instructor*, published at Wilmington, Delaware, in 1804. Speaking of himself in the third person in the introduction the author says, "Unpractised in poetry in a great degree, he has ventured thereupon supposing it to be, in general, rather more taking, with youth, than prose; and though not the most flowery cast, it will, he hopes, answer the end."

Now let the muse some incense bring,
As we the works of nature sing,

is the way he begins, and below are extracts culled here and there from succeeding pages:

America (our native) streams,
Shall first awhile become our themes,
Both lakes and rivers, great and small.
Which in th' Atlantic Ocean fall.

After naming the more important coast rivers, the book remarks:

Now o'er these streams thus having glanc'd,
And hastily thus far advanc'd,
Not having left the sounding shore,
Next their main sources shall explore;
And on the wing which poets feign,
Soar to each mount, skim o'er the plain,
To find the little purling rill,
And which the largest rivers fill.

* * * * * *

One river, of enormous size,
To west of Mississippi lies. . . .
The river this call'd Missouri,

And tow'rd south-east its courses lie,
This river, from what I can see,
Can't less than the Ohio be.

Skipping to where the book is describing leading towns, we find these lines:

An island is well known to fame,
Manhattan is this island's name. . . .
On sou'west end New York doth stand,
Investing all that point of land. . . .
Not fully regular it's plann'd,
Yet very elegant and grand. . . .
The streets present diversity,
And suited to conveniency,
The Broadway has still more of taste
Than any street in all the place. . . .
A street three-score and ten feet wide,
And gently rising from the tide,
Its edifices bold and grand,
Present themselves on either hand;
The most magnificent of all,
Known by the name of Fed'ral Hall,
For pleasantness, it is agreed,
And health, few places this exceed.
In summer come, on every side,
The cooling breezes from the tide.
For winter mildness few excel
This city, of same parallel.

In the prose portion of the book are several curious "paradoxes." Here is one of them:

Three men went on a journey, in which, though their heads travelled 12 yards farther than their feet, all returned alive, with their heads on.

The *Solution* explains that "If any person should travel round the globe, the space travelled by his head will exceed that his feet travelled" by about the number of yards mentioned.

The next geography from which I make selection is by Benjamin Davies. It was published in 1813. The first two paragraphs quoted come under the heading "New Holland." This was the accepted name of Australia until the middle of the nineteenth century. The Dutch discovered the continent in 1616, but its size and shape were only vaguely known until Captain Cook explored most of the coast in 1770.

Some suppose that this extensive region, when more thoroughly

investigated. will be found to consist of two, three or more vast islands intersected by narrow seas.

INHABITANTS. The black bushy beards of the men and the bone or reed which they thrust through the cartilage of the nose gives them a disgusting appearance; which is not improved by the practice of rubbing fish oil into their skins as a protection from the air and moskitos; so that in hot weather the stench is intolerable. The women are marked by the loss of the two first joints of the little finger of the left hand; as they are supposed to be in the way when they coil their fishing lines.

MANNERS AND CUSTOMS IN THE UNITED STATES. Travellers have observed a want of urbanity, particularly in Philadelphia; and in all the capital cities, an eager pursuit of wealth, by adventurous speculations in commerce, by land-jobbing, banks, insurance offices, and lotteries. The multiplication of inns, taverns and dram shops, is an obvious national evil that calls loudly for legislative interference; for in no country are they more numerous or more universally baneful. Schools are spread everywhere through the well-settled parts of the country, yet the domestic regulation of children and youth is not duly regarded.

LANGUAGE. The English language is the general one of the union, and is cultivated with great assiduity in all the principal cities and towns. All the classical authors in the English language have been reprinted in America, many of them have passed through several editions, some with great elegance and correctness.

BOSTON is built in a very irregular manner, on a peninsula, at the bottom of Massachusetts bay.

SOUTHERN MANNERS AND CUSTOMS. The inquisitive traveller as he progresses southward no longer beholds so great a proportion of hardy, industrious, and healthy yeomanry, living on terms of equality and independence; their domestic economy neat and comfortable; their farms well stocked; and their cattle sleek and thriving. On the contrary he discovers the farmhouses more thinly scattered, some of them miserable hovels; the retreats of small proprietors, who are too indolent or too proud to labor; here and there a stack of corn-fodder, and the cattle looking as miserable as their owners. A few miles distant perhaps he finds a large mansion house, the property of the lord of two or three thousand acres of land, surrounded by 50 or 100 negro-huts, constructed in the slightest manner; and about these cabins swarms of black slaves. But it is just to observe that many of the gentry are distinguishable for their polished manners and education, as well as for their great hospitality to strangers.

Cummings's Geography, 1814, apologizes in its preface for adding another "to the number of geographies, already so great as to obstruct, rather than promote improvement." This preface is very long, and

is chiefly made up of directions "designed to assist teachers, who have had but imperfect, or no geographical instruction." It advises them to "let the pupils always set with their faces towards the north." Then with their maps before them they will be in proper position to get the points of the compass straight in their minds.

Early in the lessons we are informed that the "Alleganies are in some places immense masses of rocks, piled one above another in frightful precipices, till they reach the height of more than 10,000 feet above a level with the ocean." In reality not a peak reaches 7,000 feet.

During the previous decade Lewis and Clark had made their journey across the continent, and we now find mention of the "Stony Mountains." It was a number of years before the name Rocky was substituted for Stony. On the maps they were sometimes labelled the Chippewan Mountains, and Workman's Geography, in 1805, says the ranges "that lie west of the river St. Pierre are called the Shining Mountains, from an infinite number of chrystal stones of an amazing size with which they are covered, and which, when the sun shines full upon them, sparkle so as to be seen at a very great distance."

In the descriptions of the states, we learn from Cummings that the western part of Pennsylvania abounds with excellent coal, but we get no hint of its having any commercial importance. Indeed, coal mining as an industry did not begin until 1820. Before that time coal was in the same category as were petroleum and natural gas, which the book calls "curiosities."

Concerning the Andes in South America, we are told, "These amazing mountains, in comparison with which the Alps are but little hills, have fissures in some places a mile wide, and deep in proportion; and there are others that run under the ground, and resemble in extent a province."

When we come to Europe, we are made to realize the intense cold of the Lapland winters by the statement that, "In attempting to drink the lips are frequently frozen to the cup." It is affirmed, too, that if there is a crust on the snow, "The Laplander travels with his reindeer in a sledge two or three hundred miles a day." Another queer bit is this about the roads in Flanders, an old-time province, which included all the coast region of Belgium and extended into France and Holland. "They are generally a broad causeway, and run several miles in a straight line till they terminate in a view of some magnificent building." These views no doubt gave pleasure, but I think I should have preferred to have the roads continue.

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Presently we find the following paragraph:

In the ocean there are many dangerous whirlpools. That called the *Maelstroom*, upon the coast of Norway, is considered as the most dreadful and voracious in the world. A minute description of the internal parts is not to be expected, since none, who were there, ever returned to bring back information. The body of the waters, that form this whirlpool, is extended in a circle about thirteen miles in circumference. In the midst of this stands a rock against which the tide in its ebb is dashed with inconceivable fury. At this time it instantly swallows up everything that comes within the sphere of its violence. No skill in the mariner, nor strength of rowing, can work an escape; the vessel's motion, though slow in the beginning, becomes every moment more rapid, it goes around in circles still narrower and narrow, till at last it is dashed against the rocks and instantly disappears. Nor is it seen again for six hours; till, the tide flowing, it is thrown forth with the same violence with which it was drawn in. The noise of this dreadful vortex still farther contributes to increase its terror, which, with the dashing of the waters, makes one of the most tremendous objects in nature.

Coffee, Arabia & West Indies
Cocoa, or Chocolate Nuts S. America
Pepper E. & W. Indies & S. America
Ginger as above
Cinnamon, Ceylon
Cloves & Nutmegs, Spice Islands
Pimenta, Jamaica & Spain
Oranges,
Lemons,
Figs,
Tea, China
Sugar, West Indies.
Box of Finest Laces, France & Netherlands
Box of Finest Silks, China, Europe, India
Cashmere Shawls, Canal & Cashmere
Camels Hair Shawls, Independent Tartary
Cinnamon, Ireland
Great Britain, & Germany
Superfine Woollen Cloths, Scotland & France.

Country Store, exhibiting the Productions of Various Countries.

Frontispiece.
From Willard's *Geography for Beginners*, 1826.
Reduced one-third.

In another geography of the period we learn that even "the bellowing struggles of the whale have not always redeemed him from the danger," and that "the bottom is full of craggy spires." The real maelstrom is caused by the current of the Great West Fiord rushing between two of the Loffoden Isles. Ordinarily it can be traversed without apprehension, but when the wind blows directly

against the current, the sea around for several miles is violently agitated and extremely dangerous.

Adams's Geography, 1818, is divided into three parts—Part I, "Geographical Orthography," consisting of ten pages of names of states, rivers, towns, etc., to be used as spelling lessons; Part II, "A Grammar of Geography," fifty pages, being an epitome of main facts "to be committed to memory"; Part III, "A Description of

Cataract of Niagara.

From Worcester's *Elements of Geography*, 1828.

the Earth," making up the body of the book, "to be read in classes." The first four excerpts are from Part II, the rest from Part III.

A MOUNTAIN is a vast protuberance of the earth.

Europe is distinguished for its learning, politeness, government, and laws; for the industry of its inhabitants, and the temperature of its climate.

The *White Mountains* are the highest not only in New Hampshire, but in the United States.

Switzerland is a small romantic country, lying upon the Alps, and is the highest spot in Europe. St. Gothard is the highest mountain.

Navigation on the *Mississippi* is attended with many difficulties and dangers, from the sudden crooks and bends in the river, the falling in of its banks, and more especially from the SAWYERS, so called, which are trees whose roots have by some means become fastened to the bottom of the river, in such a manner, that, from the continual pressure of the current, they receive a regular vibratory motion from the resemblance of which to a saw-mill, they have derived their name. Their motion is sometimes very quick, and if they strike a boat, it

is immediately upset or dashed to pieces. Vessels are from five to thirty days on their passage up to *New Orleans*, 87 miles; although with a favorable wind, they will sometimes descend in 12 hours. From New Orleans to *Natchez*, 310 miles, the voyage requires from 60 to 80 days. Ships rarely ascend above that place. It is navigable for boats, carrying about 40 tons, and rowed by 18 or 20 men to the falls of *St. Anthony*.

The number of post-offices in the United States in 1811, was 2,043. The mail was carried 46,380 miles in stages, and 61,171 miles in sulkies and on horseback.

Natural Bridge of Virginia.

From Worcester's *Elements of Geography*, 1828.

Several mineral springs break forth in different parts of the United States. The most celebrated are those of Saratoga and Ballstown in the state of New York. The latter place is much frequented by gay and fashionable people, as well as by invalids.

Beer is the common drink of the inhabitants of *New York State*. The forests abound with bears, wolves, deer, and elks.

Many of the towns and plantations in *Maine* are destitute of any settled minister. Missionaries sent among them have been affectionately received.

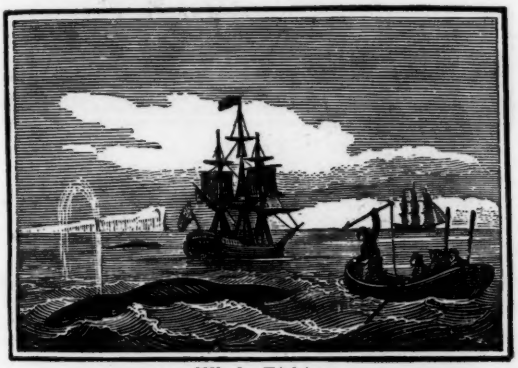
Water is brought to *Philadelphia* in a subterraneous canal, from the Schuylkill, and is then raised by steam 30 or 40 feet to a reservoir

on the top of a circular edifice, from which it is distributed by bored logs to the different parts of the city.

Pittsburg is supplied with foreign goods chiefly by land from Philadelphia and Baltimore. The price of waggon carriage this distance is from 5 to 6 dollars a hundred pounds weight. The number of inhabitants, in 1810, was 4,768.

A decade later, when Pittsburg had a population of seven thousand, the geographies speak of it as "one of the greatest manufacturing towns in the Union."

I quote further from Adams, beginning with what he has to say of "the floating mills for grinding corn, which are frequently seen on the Ohio River."



Whale Fishing.

From Worcester's *Elements of Geography*, 1829.

The mill is supported by two large canoes, with the wheel between them; this is moored wherever they can find the strongest current, nearest to the shore, by the force of which alone the mill is put in operation. It is floated up and down the river whenever a customer calls.

The exports from *Ohio*, consisting of flour, corn, hemp, flax, beef, pork, smoked hams of venison, whiskey, peach brandy, and lumber are mostly sent down the Mississippi to New Orleans. Those boats which descend with the produce rarely return, but on arriving at New Orleans, are taken to pieces and sold for lumber.

Cincinnati is a pleasant, flourishing town. It contains about 3,000 inhabitants. In this town is fort Washington, which commences the chain of forts extending to the westward.

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Detroit, the capital of Michigan Territory, is a place of considerable trade, which consists chiefly in a barter of coarse European goods with the natives for furs. The town is surrounded by a strong blockade, through which there are four gates. The streets are generally

Treck-Shuit.

From Worcester's *Elements of Geography*, 1829.

crowed with Indians in the day time; but at night they are all shut out of the town, except such as get admittance into private houses, and the gates are closed.

St. Louis, the capital of the Territory of Louisiana, contains about 200 houses and is well fortified.

The people of *Norway* are justly famed for honesty and industry,

Bridges in Chili.

From Woodridge's *Rudiments of Geography*, 1829.

and retain their strength so long, that a Norwegian is not supposed incapable of labour, till he is upwards of 100 years old. The inhabitants in some of the interior parts it is said live till weary of life.

In all the northern parts of *Russia* the winter cold is very terrible. Birds in the act of flying have sometimes been known to drop down dead from the atmosphere in consequence of it; drivers of carriages are frequently frozen to death upon their seats without being able to change their position. At Petersburg, only two months in the year are entirely free from snow.

The CONDOR is undoubted the largest bird that pervades the air. When it alights on the ground, or arises from it, the noise it makes

PETER PARLEY
Going to tell about Geography.

Take care there! take care boys! if you run against my toe,
I'll not tell you another story!

Frontispiece to *Peter Parley's Geography*, 1830.

with its wings is such as to terrify and almost to deafen any one who happens to be near the place.

Among the animals peculiar to South America, the most extraordinary is the SLOTH, or as it was called by the way of derision, the swift Petre. It is about the size of an ordinary monkey, but of a most wretched appearance. It never stirs unless impelled by hunger; it is said to be several minutes in moving one of its legs. Every effort is attended with a most dismal cry. When this animal finds

no wild fruits on the ground, he looks out with a great deal of pain for a tree well loaded, which he ascends moving and crying, and stopping by turns. At length, having mounted, he plucks off all the fruit and throws it on the ground, to save himself such another troublesome journey; and rather than be fatigued in coming down the tree, gathers himself in a bunch, and with a shriek drops to the ground.

A similar description of the sloth in Dwight's Geography includes the statement that "It is so many days travelling from one tree to another, that it frequently grows lean during the journey."

Peter Parley's Method of telling about Geography, 1829, was a thin, square little book with leather back and flexible pasteboard sides. For years it had an immense circulation. The style is simple and

English.

A Chinese selling Rats and Puppies for pies.

From *Peter Parley's Geography,* 1829.

colloquial; there are numerous pictures and a variety of maps and diagrams. Perhaps the portion best remembered by those who studied the book is a rhymed review of the earlier lessons, beginning—

> The world is round, and like a ball
> Seems swinging in the air,
> A sky extends around it all,
> And stars are shining there.

Pains are taken to inculcate good morals and religion, and we find in treating of Asia considerable Bible history with appropriate comments. "This history," the author says, "is exceedingly interesting, and is all true. A great part of the history of almost all other nations is false; but the Bible tells us nothing but what is worthy of belief."

The Malte-Brun Geography, 1831, was also written by "Peter Parley," but the materials for the book were drawn chiefly from the large work by the noted French geographer, whose name gives the book its title. Selections that show something of the character of the book and of the times follow:

Norwegian.

From *Peter Parley's Geography.*

Occasional bands of white hunters and trappers range the Missouri Territory for furs. Some of them extend their expeditions to the foot of the Rocky mountains, and some to the shores of the Pacific.

White Bear.

From Olney's *A Practical System of Modern Geography*, 1831.

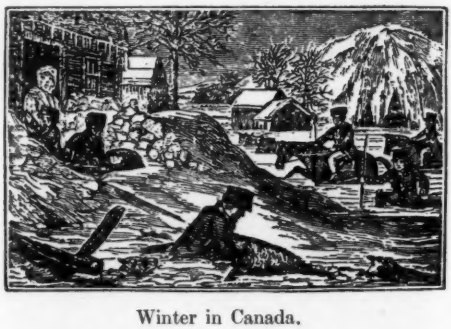
The herds of buffaloes that are seen in this territory sometimes amount to 10,000 each. When the herd is moving, the ground trembles, and the grumbling and bellowing of the multitude is heard for miles.

It is probable that, ere long, roads will be cut across the Rocky mountains; that lines of stages will convey travellers from the shores of the Atlantic to the Pacific; that the borders of the latter ocean will be occupied by towns and villages; and that the immense valleys

The Maelstroom.

From Olney's *A Practical System of Modern Geography.*

of the Missouri, the Arkansas and the Columbia, now given up to the dominion of savages and wild beasts, will present all the busy and varied scenes of a crowded population.



Winter in Canada.

From *The Malte-Brun School Geography*, 1831.

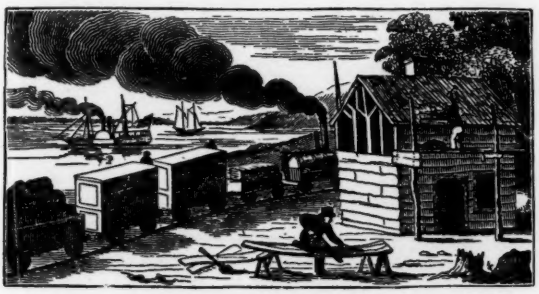
Paris sets the fashions for Europe, and in some measure for America. An immense trade is here carried on in articles of dress. Every week the female fashions are changed, and every month there is a new cut for male attire.

From Woodbridge's *Universal Geography*, 1833, a large thick volume for advanced scholars, I make this extract:

In 1790 the extent of post-roads in the United States was only 1875 miles; in 1827, it was 105,336. The great roads are usually turnpikes constructed by the state or incorporated bodies and supported by tolls. New England, and the greater part of the Middle States, are intersected in every direction by roads, which are usually well constructed and in good repair.

In the sandy, alluvial country of the Atlantic coast from New York to Florida, the roads are heavy, and not easily improved. The scattered state of population has prevented much attention to roads, in the states south of Maryland: and frequent impediments are presented by the want of bridges and causeways, over the streams and marshes.

In the Western States, during the wet season, many roads are scarcely passable for wheel carriages. The travelling in these states is chiefly by steam boats, on their noble rivers. The small streams



Progress of Improvement.

From *The Malte-Brun School Geography*, 1842.

are so variable that most of them can be forded during the dry seasons, and bridges are rarely built. The banks are high and steep, and the difficulty of passage is often very great. During high water, many of the streams become impassable, and the traveller encounters serious dangers.

The most important post-road in the United States is that which traverses the states on the Atlantic, a distance of 1,800 miles, passing through all the principal towns from Robbinstown in Maine to Florida.

A plan has recently been invented for constructing roads with iron bars, or railways, on which the wheels of carriages run so easily that they may be drawn from 15 to 30 miles an hour, by means of locomotive steam engines.

Peter Parley, in one of his geographies published in 1837, says of the railroads:

They are found so useful, that, for carrying passengers from one place to another, they have, on many routes, taken the place of stage-coaches. When the cars first began to run, it was amusing to see the astonishment of the horses and cattle, as the engines came snorting, smoking, and puffing over the road. You have heard of the

Scene in Illinois.
From *The Malte-Brun School Geography*, 1842.

rail road from Boston to Worcester. Near the latter place is an Insane Hospital, which commands a view of the road. When the first car came into Worcester, a crazy man was looking out of the

Pilgrims landing at Plymouth.
From Goodrich's *A National Geography*, 1845.

window. "Upon my word," said he, "that's a strange-looking beast and travels desperate fast for such a short-legged crittur."

Peter Parley's National Geography, 1845, was the earliest, I believe, to take the large, flat quarto shape. This form enabled it to include

good-sized maps and do away with the necessity for a separate atlas; and in a few years the 12mos had been entirely abandoned. The chapters of the *National Geography* were enlivened with poetical introductions, and there were occasional other verses. The following selection, the last I have to make from the geographies of our forefathers, is this jingle description of "a general custom of moving, in the city of New York, on the first of May."

Bustle, bustle! Clear the way!
He moves, they move, we move, to-day;—
Pulling, hauling, fathers calling,
Mothers brawling, children squalling,
Coaxing, teasing, whimpering, prattling;
Pots and pans and kettles rattling;
Tumbling bedsteads, flying bedspreads,
Broken chairs, and hollow wares,
Strew the streets—'Tis *moving* day!

Battle of Lexington.

From Mitchell's *A System of Modern Geography*, 1850.

GEOGRAPHICAL NOTES

Trade and Commerce in Persia.—Persia at the present time, with the exception of the carpet trade and, to a very limited extent, printed and plain cotton goods, is without manufactures. This means that nearly all the products of the mine and loom are of foreign make and composition. This provides a market of considerable extent for imported goods, which has been, and is even now, monopolized to a great extent by England and Russia. Other countries are represented, but to a much smaller extent. American goods reach Persia through the organized channels of European trade, with foreign labels and trade-marks, the extent of which cannot therefore be ascertained.

American lamps, clocks, watches, and locks have a steadily increasing sale in the Teheran bazaars, especially locks, which excel in mechanical complexity, combined with lightness and convenience of handling (important considerations), anything hitherto put on sale. Phonographs and electric fans are curiosities in demand. American hand pumps and cooking and warming stoves find appreciative purchasers and should, with proper management and competitive enterprise, soon monopolize the market. Our exploiters of the trade of Persia should aim at creating demands by the supply of novelties, of which we have a great variety; and by the use of new means and machinery reproduce old lines of goods at less cost than others and, if possible, in more attractive designs and appearance. This could include both vegetable and mineral raw materials. There is no competition from within worth mentioning, except in carpets, which should never be imported, for in the beauty of the dyes, the purity of taste in design, the harmonizing and shading of colors, and the durability in the wear the native article is unapproachable.

Agricultural machinery of a simple, portable make, such as horse-power threshing machinery, winnowing and chaff-cutting machines, plows, and harrows, will meet with a considerable sale as soon as their utility and advantage over present methods are known. Much more interest is now being evinced in tilling the land and nourishing, harvesting, and threshing out the crops than was the case in former times. American manufacturers and merchants can, with the vast and diverse sources of supply at their disposal, outstrip any other country in stimulating and meeting Persian demands.—*Consular Reports*, March, 1904.

EDITORIAL

WHAT A CHILD SHOULD GAIN FROM HIS SCHOOL COURSE IN GEOGRAPHY

THE papers appearing in this and the preceding numbers of the JOURNAL, and devoted to the problem of what a child ought to gain from his school geography work, are the first of a series which will be continued later. The Editors of the JOURNAL have felt that this topic was one of the most important in school geography, and have therefore secured the assistance of a number of geography teachers, geographers, superintendents, and authors of school texts.

We have been discussing the content of school geography and the methods to be followed for many years, but there has been but little consideration of the ends to be attained. Each worker has made his own decisions as to the aims of his school geography work, and has endeavored to have his course measure up well to the definition of geography as generally adopted. Unfortunately, however, not enough consideration has been given to the important point as to what of permanent value geography study should contribute to a child's training. We have been anxious to have each year's work effective in promoting a pupil's general information concerning the world, we have tried to make the work interesting and thought inspiring, but we have neglected altogether too much the disciplinary side and the giving of training as to how to learn more geography after the school course is far behind. We have worked for the present and not enough for the future.

It is hoped that this series of papers will be of great value in showing the trend of thought among leaders as to what geography should do for a child. Suggestions and discussions of this topic will be welcomed by the Editors.

REVIEWS

Handbook of Commercial Geography. By Geo. G. Chisholm. Fourth corrected edition. Pp. xlvi and 639. New York: Longmans, Green & Co., 1903.

The new and revised edition of Chisholm's Handbook of Commercial Geography is a necessary adjunct to any geographical library, and an indispensable book of reference in commercial geography. Though the progress of commercial geography texts in this country has been very rapid and satisfactory within the last few years, we have as yet produced no such reference volume as the one under review.

XUM

Primarily a reference volume for advanced students, it is too advanced and inclusive for school use. It is, however, a volume which is of great assistance to any teacher of general geography and a necessary *cade mecum* for any worker in commercial geography. The introduction and the first sixty-three pages of the text form a splendid summary of the principles of geography, which determine or influence commercial conditions, and should be read by every student of geography.

The rest of the book first treats of the different products involved in commerce and then of the commercial geography of the different countries. Under the topical treatment the conditions are described that make for the success or failure of the product concerned; this is followed by a statement of the geographical distribution of the product, and usually by a comparative statement of the status of the product in the different countries. In the regional treatment a full and valuable consideration is first given to the general geography of the country, followed by an adequate treatment of the commercial conditions. This form of treatment makes the book valuable for reference by the student of general as well as commercial geography, and is a very strong factor in a generally satisfactory book.

An appendix contains a comprehensive series of statistical and other reference tables available for comparative study. Unfortunately some of these statistics are not as new as the date of the edition would warrant. R. E. D.

Stories of Discovery. By Edward E. Hale. Pp. vi and 292. New edition, revised. Boston: Little, Brown & Co., 1905.

A new edition of Doctor Hale's well-tried volume of Stories of Discovery is a welcome addition to the available and trustworthy volumes for supplementary work in history and geography. The eleven chapters summarize the work of Columbus, Da Gama, Magalhaens, and Drake; the voyages to the Atlantic Coast, in the Pacific, to the source of the Nile, and to the mouth of the Niger; give the history of the voyages in the Arctic and the Antarctic, while one chapter is devoted to the conditions in the early history of the Mississippi Valley.

Recent discoveries in the Far North are only mentioned, the current expeditions in Antarctica are not even alluded to, and even the work of Stanley is only mentioned as having been brought into public light because of the recent death of the eminent discoverer. These deficiencies are deeply to be regretted, for they make the new edition more new in name than in fact. R. E. D.

NEWS NOTES

Resolutions Adopted by the Eighth International Geographic Congress, September 13, 1904.

Rules for Geographic Names.—Local names are, as far as possible, to be preserved not only in those regions where already established, but also in wild regions. They should, on this account, be determined with all the accuracy possible.

Where local names do not exist or cannot be discovered, the names applied by the first discoverer should be used until further investiga-

tion. The arbitrary altering of historical, long existent names, well known not only in common use but also in science, is to be regarded as extremely unadvisable, and every means should be employed to resist such alterations. Inappropriate and fantastical names are to be replaced, as far as possible, by local and more appropriate names.

The above rules are not to be rigorously construed, yet they should be followed to a greater extent than heretofore by travelers and in scientific works. Their publication in periodicals as the opinion of the Congress will probably prove of great weight. Although in recent years many official systems of determination of geographic names have been enunciated, we have still evidence of the very slight influence which the wishes of the International Geographic Congresses exert over the decision of the official authorities. To this geographical societies are urged to give wide publicity.

Introduction of the Fractional Scales on Maps.—The Seventh International Geographic Congress expressed the urgent wish that upon all charts, including those published by the lands still employing the English and Russian systems of measurement, along with the scale of geographic co-ordinance, that the scale of reduction should be expressed in the usual fractional form, 1:x, and that the latter be added to all lists of charts covering land and sea, and requests the executive committee of the Congress to bring this decision to the attention of all governments, geographical societies, and establishments engaged in the publication of charts.

The advantage to be derived from the support of this resolution, which has its origin with the editor of *Peterman's Mittheilungen*, and the extensive dissemination of the resolution, is at once evident. In English publications a custom has arisen of adding a statement of the ratio 1:x to the usually employed x miles to one inch. In America the custom has arisen of going even a step beyond this, namely: The addition of the ratio of reduction has led to the direct application of the decimal system in the units of measure adopted upon the charts.

To this geographical societies are urged to give wide publicity.

The Decimal System.—The Eighth International Geographic Congress expresses itself in favor of a uniform system in all geographical researches and discussions, and it recommends for this purpose the employment of the metric system of weights and measures, as also the employment of the centigrade thermometric scale.

It is moreover highly desirable that there should always be added

to statements of the Fahrenheit and the Réaumur scales their equivalent upon the scale of Celsius.

Similar is this question of the metric system which reaches even more deeply than the former into the well-established customs of daily life, and has proved not without value in promoting international uniformity and simplicity. Although the metric system of weights and measures has made slow progress. and this alone through the portals of scientific work, its application to geophysics and geography has already made a fair beginning. In England a special organization, entitled the Decimal Association, has taken charge of the matter. The Commonwealth of Australia has entrusted the subject to a commission. We are without knowledge of the efforts in this direction thus far made in Russia.

To this geographical societies are urged to give wide publicity.

Standard Time.—*Resolved*, In view of the fact that a large majority of the nations of the world have already adopted systems of standard time based upon the meridian of Greenwich, as prime meridian, that this Congress is in favor of the universal adoption of the meridian of Greenwich as the basis of all systems of standard time.

Publication of Photographs.—It is suggested by the lantern slides shown by Mr. Siebers, and by the photographs by Mr. Willis, that it is desirable that in these, and the cases of other exploring travelers, photographs of geographical significance might be published, and accompanied by short explanatory notes, so that they may form collections of representative physical features of different parts of the world.

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